

**Claims**

1. A circuit arrangement for an illumination device having the following features:
  - 5 • connection apparatus (S) for a first (G1) and a second (G2) group of light sources,
  - a first (CON, PWM1) and a second (CON, PWM2) power supply,
  - the first power supply (CON, PWM1) making it possible to set the power output to the first group (G1) of light sources and the second power supply (CON, PWM2) making it possible to set the power output to the second group (G2) of light sources,
  - 10 • a first (E1) and a second (E2) setting apparatus,
  - it being possible to use the first setting apparatus (E1) to set the power output of the first (CON, PWM1) and, at the same time, the second (CON, PWM2) power supply,
  - 20 • whereas the second setting apparatus (E2) may be used to set only the power output of the second power supply (CON, PWM2).
- 25 2. The circuit arrangement as claimed in claim 1, whereas the power output of the first (CON, PWM1) and the second (CON, PWM2) power supply can be set by means of pulse width modulation.
- 30 3. The circuit arrangement as claimed in claim 1, whereas the first setting apparatus (E1) contains a first and a second potentiometer, which are coupled to one another, being possible to use the first potentiometer to set the power output of the first power supply (CON, PWM1), and to use the second potentiometer to set the power output of the second power supply (CON, PWM2),
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whereas the second setting apparatus (E2) contains one potentiometer which is connected in parallel with the second potentiometer of the first setting apparatus (E1).

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4. The circuit arrangement as claimed in claim 1, whereas the connection apparatus (S) has a common reference potential for the first and the second groups of light sources.

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5. An illumination device which comprises a circuit arrangement as claimed in claim 1, a first (G1) and a second (G2) group of light sources being connected to the connection apparatus (S), whereas

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the first group (G1) of light sources radiates a first color and the second group (G2) of light sources radiates a second color, the first and the second colors being different.

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6. The illumination device as claimed in claim 5, whereas the colors of the groups (G1, G2) of light sources are selected such that the second setting apparatus (E2) makes it possible to set the illumination device such that it emits white light.

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- 30 7. The illumination device as claimed in claim 5, whereas at least one group (G1, G2) of light sources contains the differently colored subgroups (UG1, UG2) of light sources, which are connected in parallel or in series.

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8. The illumination device as claimed in claim 7, whereas

the first group (G1) of light sources is made up of a subgroup (UG1) having the color red and a subgroup (UG2) having the color green, whereas the second group (G2) of light sources radiates the color blue.

9. The illumination device as claimed in claim 8, whereas

the subgroup (UG1) having the color red radiates light of a wavelength in the region of 617 nm, and the subgroup (UG2) having the color green radiates light of a wavelength in the region of 525 nm, whereas the second group (G2) of light sources radiates light of a wavelength in the region of 470 nm.

10. The illumination device as claimed in claim 9, whereas

in the event that the setting apparatuses (E1, E2) have settings which effect a maximum power output of the power supplies ((CON, PWM1), (CON, PWM2)), based on a total luminous flux of the illumination device,

the subgroup (UG1) having the color red has a component in the region of 51%, the subgroup (UG2) having the color green has a component in the region of 36%, and the second group (G2) of light sources has a component in the region of 13%.

11. The illumination device as claimed in one of claims 5 to 10, characterized in that the light sources are LEDs.

12. A method for setting the brightness and color of an illumination device, characterized by the following steps:

- provision of a first (G1) and a second (G2) group of differently colored light sources, the first group (G1) comprising two differently colored subgroups (UG1, UG2);
- 5     - in order to set the brightness of the illumination device, the brightness of all of the groups (G1, G2) of light sources is altered to the same degree;
- 10    - in order to set the color of the illumination device, only the brightness of the second group (G2) of light sources is altered.